

NDEQ ERT Investigation Report

Big Ox Energy Odor Complaint, South Sioux City, RA102516-JF-1127

Background:

On October 25, 2016, DEQ was notified of an odor problem in South Sioux City, Dakota County. The problem is reportedly related to operations at the Big Ox Energy plant, 1617 Dakota Ave, South Sioux City. About 25 residents have been temporarily relocated to motels. Big Ox Energy and South Sioux City personnel have been working to find solutions to reduce the odor and prevent it from entering residences. On Friday, October 28, 2016, Scott McIntyre was dispatched to the site to conduct an odor survey and measure hydrogen sulfide concentrations at sewer manholes in the affected area.

Narrative:

I arrived on site at 1632 hours. I attempted to contact Deanna Barkman, the Dakota County Emergency Manager, without success. After consulting with the Dakota County Sheriff's office and personnel at City Hall, I was able to contact Mr. Bob Livermore (712-301-8880), the South Sioux City Public Works Director. He gave me a synopsis of the completed and planned actions to reduce the production of hydrogen sulfide gas in the sewer and prevent the gas from entering houses in the area. He reported that concentrations had dropped compared to earlier in the week, and said that personnel had measured an H₂S concentration of 32 ppm at the manhole at East 39th & G Streets earlier in the afternoon. We discussed my plan to walk through the affected neighborhood and measure concentrations at sewer manholes, and I said that a copy of my report would be provided to the city.

I began my survey at East 39th & G Street, but discovered that manholes at that intersection and eastward were solid, with no openings to allow monitoring for vapors. Because of the frequent traffic I decided not to open the manholes, but instead proceeded through the rest of the neighborhood sampling at each sewer manhole for 60 seconds and recording the highest readings for H₂S and total VOCs. The highest concentrations were observed along East 39th Street, especially west of C Street (23.9 ppm H₂S and 4.7 ppm VOCs). The area along Red Bird Lane and Red Bird Court, which Mr. Livermore had characterized as having the largest concentration of affected households, exhibited relatively low concentrations at the time of my visit (a maximum of 1.2 ppm H₂S and 0.46 ppm VOCs). Maps showing the survey results are included at the end of this report.

I smelled H₂S only once, near the manhole at the intersection of East 39th Street & Red Bird Lane. The odor was noticeable but not overwhelming.

I completed my survey at 1847 hours. After reviewing my notes and stowing my equipment, I left the site at 1901 hours.

General Area

